

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Patent Application No. 09/291,748

REMARKS

Reconsideration and allowance of the subject application are respectfully requested. Upon entry of this Amendment, claims 1-10 are pending in the application. In response to the Office Action (Paper No. 20), Applicant respectfully submits that the pending claims define patentable subject matter.

The Examiner objects specification because the Examiner contends that the “means” language used in the “More Detailed Description” section (pages 8-12) is allegedly confusing to those skilled in the art. By this Amendment, Applicant has amended the specification to change the element names as requested by the Examiner. Accordingly, the Examiner is requested to remove the objection to the specification.

Claims 1-10 remain rejected under 35 U.S.C. § 102(e) as being anticipated Popovic (USP 6,393,047). Applicant respectfully submits that the claimed invention would not have been anticipated by or rendered obvious in view of Popovic because the applied reference does not disclose spreading blocks of symbols with different spreading factors and then applying a scrambling code of length QMAX which is a multiple of the different spreading factors, to blocks of QMAX basic symbols obtained by spreading with the spreading factors, as required by the claims.¹

¹ Independent claim 1 requires “spreading means for spreading blocks of symbols with the different spreading factors; and scrambling means for applying a scrambling code of length QMAX which is a multiple of said different spreading factors, to blocks of QMAX basic symbols obtained by spreading with any of said spreading factors.” Independent claim 3 requires “descrambling means for applying a scrambling code of length QMAX which is a multiple of said different spreading factors, to spread blocks of QMAX basic symbols obtained by spreading with any of said spreading factors; and despreading means for ... (footnote continued)

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As shown in Figure 3, Popovic teaches (1) spreading two separate biphase (+/-1) information streams, such as a traffic data stream and a control data stream, with channelization codes, and (2) spreading a complex information signal, formed by combining the spread information streams, with a radio spreading code (also referred to as a complex spreading code at col. 6, lines 29-30). The teachings of Popovic are primarily to the generation of the “channelization code”, whereas the “radio spreading code” (or “complex spreading code”) is only mentioned, briefly at col. 6, lines 1-24 with reference to Fig. 3 (relating to the prior art), and everywhere else in Popovic, the term ”spreading code” or “code” is used in the place of “channelization code”.

The Examiner’s analysis is apparently based on col. 6, lines 25-32 and col. 12, lines 32-67 of Popovic. In particular, the Examiner contends that:

Popovic teaches of a second code that is an integer multiple of a first code (col. 3, lns. 1-8). The first code is applied to an incoming data sequence by a multiplicative operation. The second code is then applied to the sequence by a multiplicative operation (Fig. 3). The first code is based on Orthogonal Variable Spreading Factor (OVSF) codes, which are labeled a channelization code (col. 6, lns. 10-15). The second code applied is labeled a spreading code, which is a multiple of the different spreading factors (col. 6, lns. 25-32, col. 12, lns. 32-67). Although the naming of the codes is different between the instant application and the Popovic reference, they perform the same claimed operation in the same claimed sequence. The first code applied to the incoming sequence is based on a spreading factor, which is a submultiple of the second code. The second code is a

despread with said spreading factors said blocks of QMAX basic symbols descrambled by said descrambling means.” Claim 2 and 4 recite similar limitations.

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multiple of the different spreading factors of the channelization codes, and is applied by a multiplicative process after the first code.²

Even if the “channelization code” (first code) in Popovic is construed as a “spreading code”, and the “radio spreading code” or “complex spreading code” (second code) in Popovic is construed as a “scrambling code”, Applicant respectfully submits that it is quite clear that Popovic does not teach or suggest the subject-matter of the present invention. In particular, contrary the Examiner’s position, nowhere does Popovic teach or suggest a “scrambling code” having a length which is a multiple of different “spreading code” lengths (using the terms of the present application), or a “radio spreading code” (or “complex spreading code”) having a length which is a multiple of different “channelization code” lengths (using the terms of Popovic).

Popovic’s disclosure at col. 6, lines 25-32 relates to Fig. 3 as discussed above, and does not disclose that a “radio spreading code” (or “complex spreading code”) would have a length which is a multiple of different “channelization code” lengths. Popovic’s disclosure at col. 12, lines 32-67 is directed only to the “channelization code” and does not relate the “radio spreading code” (or the “complex spreading code”). That is, in the disclosed relation $SF(k) = L/2^k$, the parameters k, SF(k) and L all relate to the “channelization codes”, and there is no parameter relating to the “radio spreading code” (or “complex spreading code”). In other words, the above notions of spreading factor

² Office Action at pages 6 and 7.

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(SF(k)) and spreading code length (L) refer to a same and single code which is the "channelization code".

In view of the above, Applicant respectfully submits that the claims 1-10 should be allowable because the cited reference does not teach or suggest all of the features of the claims.

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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